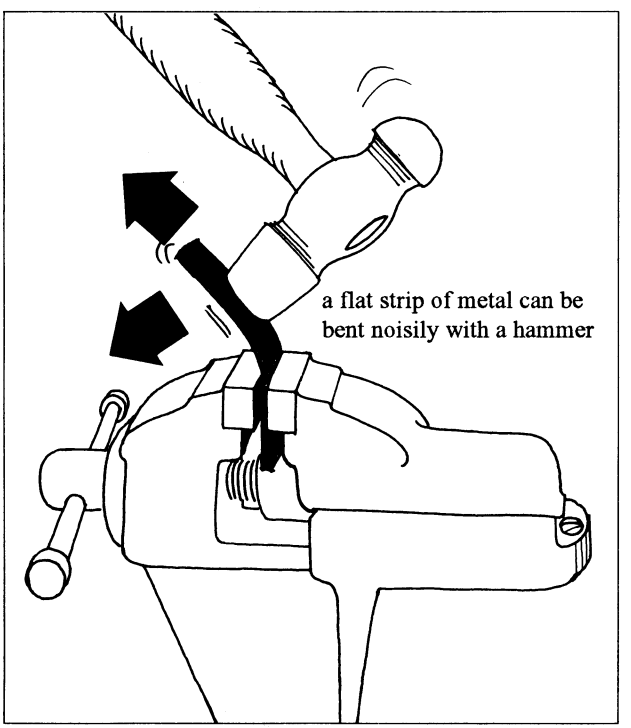
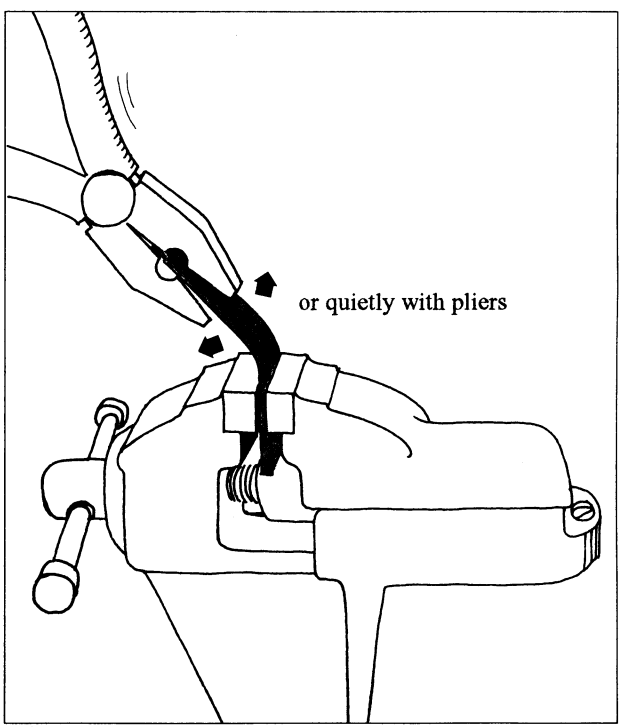
CHANGES IN FORCE, PRESSURE, OR SPEED PRODUCE NOISE

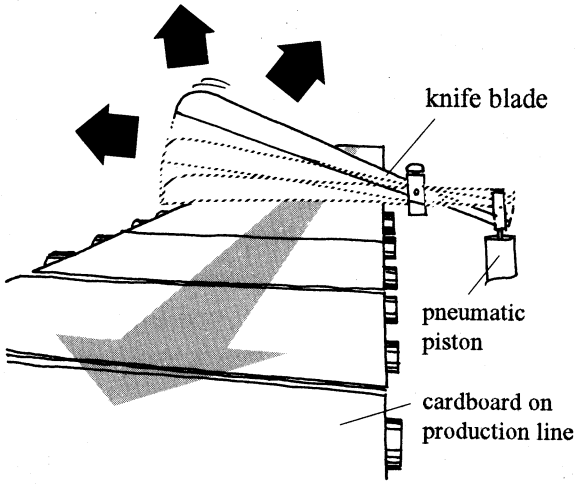
Sound is always produced by changes in force, pressure or speed. Large changes produce loud noises, small changes produce less noise. In many processes, the same result can be achieved with the application of high power for a short period of time or with less power over a longer period. The former results in high noise levels, while the latter produces much less noise.

Principle





Application with stamping and cutting equipment



EXAMPLE

In a box-making machine, cardboard is cut with a guillotine. The knife must strike very rapidly and with great force in order for the cut to be perpendicular to the direction of motion. Much noise results.

CONTROL MEASURE

Using a knife blade which travels across the production line, the cardboard can be scored with minimal force over a longer period of time. Since the cardboard strip is in continuous motion, the knife must travel at an angle with the moving production line in order for the cut to be perpendicular. The cutting is practically noise-free.